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U.S. INTERNATIONAL TRADE COMMISSION RELEASES A SUMMARY ON BROADWOVEN FABRICS OF MANMADE FIBERS AS ONE OF A SERIES OF SUMMARIES OF TRADE AND TARIFF INFORMATION

Information on U.S. imports, exports, and production and on world trade in broadwoven fabrics of manmade fibers became available today as the United States International Trade Commission released another report in its new, in-depth series of summaries of trade and tariff information initiated last year.

The summaries of trade and tariff information are designed to meet the needs of wide and varied interests, including the Congress, the courts, Government agencies, importers, domestic producers, research organizations, and many others. The summaries contain accurate descriptions, in terms of the tariff schedules, of the thousands of products imported into the United States, and information on their methods of production, world supplies, and importance in trade and in the U.S. economy. The summaries also include substantive analytical material with regard to the basic factors affecting trends in consumption, production, and trade, and factors bearing on the competitive position and economic health of domestic industries.

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This report is being distributed to various Government agencies, congressional committees, and interested members of the public. In addition, as a service to the public, the field offices of the Department of Commerce and selected public and university libraries in large cities will be supplied with copies for commercial and professional consultation. Please address all communications regarding this report to the Secretary, U.S. International Trade Commission, 701 E Street NW., Washington, D.C. 20436.

UNITED STATES INTERNATIONAL TRADE COMMISSION

SUMMARY OF TRADE AND TARIFF INFORMATION

Prepared in Terms of the

Tariff Schedules of the United States

Broadwoven Fabrics of Manmade Fibers

TSUS items 338.10, 338.15, and 338.30

USITC PUBLICATION 841
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February 1978

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Schedule 1 – Animal and Vegetable Products

Schedule 2 – Wood and Paper; Printed Matter

Schedule 3 – Textile Fibers and Textile Products

Schedule 4 – Chemicals and Related Products

Schedule 5 – Nonmetallic Minerals and Products

Schedule 6 – Metals and Metal Products

Schedule 7 – Specified Products; Miscellaneous and Nonenumerated Products

Schedule 8 – Special Classification Provisions

FOREWORD

Each Summary of Trade and Tariff Information is part of a series published periodically by the United States International Trade Commission to provide information on conditions of competition between domestic and foreign products and to include data on trade and devlopment of U.S. industries. This report represents one of many being published in the current series of summaries.

This series provides comprehensive coverage of product uses, manufacturing processes, and commercial practices, and provides analysis of the numerous factors affecting U.S. and world trade in each commodity area. The summaries are cast in terms of the eight schedules of the Tariff Schedules of the United States (TSUS).

The current series will consist of approximately 1,000 individual reports published in looseleaf form which will enable the Commission to issue update sheets as appropriate for individual summaries. The overall program will run several years, ultimately covering all items of the TSUS.

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Executive Summary

U.S. annual production of broadwoven fabrics of manmade fibers is valued at more than $2 billion and world production at an estimated $10 billion. U.S. consumption has increased almost 40 percent in the last decade and world consumption, increased more than 50 percent. Less than 20 percent of world production enters international trade channels and this mainly goes to other developed countries. The United States is the world's greatest market for broadwoven fabrics of manmade fibers, utilizing over 20 percent of world production in 1976. Japan is perhaps second, using more than 10 percent of world production in 1976, and it is estimated that the Soviet Union is third. Other important markets include West Germany, the United Kingdom, France, Italy, the Republic of Korea, and the Republic of China.

Worldwide, almost a million people are employed directly by the broadwoven manmade fiber fabric industry, with the United States employing about 141,000 people in 1976. Another million people work with auxillary establishments such as dyeing and finishing plants throughout the world. About 30,000 such workers are employed in the United States. The world industry employs many unskilled workers and often is found where such workers are available.

Production and trade in textiles is of vital importance to the economy of a great many developed and developing countries. Since the industry is highly competitive and each country wishes to expand its textile production, the industry has been marked historically by instability in world trade patterns and by a tendency toward proliferation of restrictive national trade measures. An ongoing multinational effort, reflected by a series of international agreements dating back to 1961, has made considerable progress towards stabilization and expansion of world trade in textiles, of which manmade-fiber fabrics represent an important and rapidly growing segment.

Description and Uses

Types of fabrics

The broadwoven fabrics covered by this summary exceed 12 inches in width and contain goods completely made of manmade fibers (except glass) or mixtures with natural fibers in chief value of manmade fibers. Manmade fiber broadwoven fabrics may be divided into three major groups based on the type of yarn used in the fabric: (1) fabrics wholly of continuous manmade fibers (filament-yarn fabrics), (2) fabrics wholly of noncontinuous manmade fibers including blends of such fibers and natural fibers in chief value of manmade fibers (spun-yarn fabrics), and (3) combinations and mixtures of continuous and noncontinuous fibers including blends with natural fibers in chief value of manmade fibers (filament-spun fabrics). According to U.S. Department of Commerce data, the first group accounted for over 35 percent of the U.S. market in 1977, the second group is the largest in the U.S. market and accounted for over 55 percent in 1977, and the third group accounted for the remainder. On the basis of raw material costs, the first group overall is the most expensive per linear yard, the third group, the least expensive per linear yard, and the second group, somewhere between these two.

Filament-yarn fabrics consist of eight principal types: taffetas, twills, satins, sheers (including marquisettes and ninons), crepes (including failles), plied-yarn fabrics, drapery and upholstery fabrics, and industrial fabrics. About one-half of this group is accounted for by taffetas, one-eighth by industrial fabrics, and one-twelfth by satins.

Spun-yarn fabrics covered by this summary include these important types: twills, challis, linen-type fabrics, ribbed and corded fabrics, batistes, bedsheetings, seersuckers, pattern fabrics, and print cloth fabrics. Most of this group in the U.S. market consists of polyester-cotton blends, chief of which are bedsheeting fabrics which accounted for about one-third of the market for this blend in 1977. Other important fabrics in this group are polyester-cotton broadcloth, twills, print cloth, and batistes.

Filament-spun fabrics may include any of the above-mentioned types; in addition, they are the ones generally used in the manufacture of stretch fabrics.

Fabrics made of blends of manmade and other fibers

In recent years fabrics of manmade fibers woven from blended yarns or mixtures of two or more fibers, including non-manmade fibers, have become increasingly important. Recent production of manmade-fiber fabric has been made up of about 59 percent of fabric totally of spun yarns, 35 percent totally of filament yarns, and 6 percent of combinations of spun and filament yarns.

Most of the fabric of spun yarns (78 percent) has been some form of polyester and cotton. This has been the most popular blend in the last few years,

and until recently, practically all of this fabric was reported in U.S. production statistics as manmade fabric since it was usually in chief weight polyester. However, there has been increasing popularity in such blends in which cotton has been the chief component by weight, and significant quantities of cotton-polyester blends are now reported in U.S. production statistics as cotton fabric. Other lesser important blends of manmade-fabric of spun yarns include rayon-cotton and polyester-rayon combinations. Less than 10 percent of the manmade-fiber fabrics of spun yarns are entirely of a single fiber.

Although most manmade-fiber fabric wholly of filament yarn is of a single type of fiber, there are small quantities of such fabric produced from rayon-acetate and rayon-nylon combinations. Most of the manmade-fiber fabric of mixtures of spun yarn and filament are accounted for by constructions utilizing filaments in the warp and spun yarns in the filling.

The reasons for manufacturing blended fabrics include the following: (1) to produce fabrics of improved functionality, (2) to improve weaving efficiency, (3) to obtain cross-dye effects in piece dyeing, (4) to produce fabrics with outstanding loft or bulkiness through the use of high-shrinkage fibers in the feed yarn, (5) to give fabrics particular esthetic and physical properties, and (6) to produce fabrics for certain uses at a lower cost.

End Uses

Broadwoven fabrics are usually produced in widths of from about 12 inches to more than 100 inches. Over 55 percent of the output of broadwoven goods of manmade fibers is used by manufacturers of apparel, especially for women's dresses, blouses, negligees, underwear, and nightwear, and men's suits, coats, slacks, shirts, lounging robes, and neckties. A large quantity is also used for suit and coat linings.

Somewhat less than 25 percent of the production of broadwoven fabrics of manmade fibers is used by manufacturers of industrial and other consumer-type products. Principal industrial uses include filters, outdoor awnings, and tarpaulins and other protective coverings. Some of the specialized fabrics are made for military purposes, chief of which are in cargo parachutes of rayon and man-carrying parachutes of nylon. Other consumer-type products for which fabrics of manmade fibers are used include handbags and umbrella covers, shoe uppers, millinery allovers, handkerchiefs, and diapers.

The remaining 20 percent of the output of manmade-fiber woven fabrics is used by manufacturers of home furnishings. The end products here consist mainly of sheets, pillowcases, draperies, upholstery, bedspreads, curtains, tablecloths, lampshades, cushion covers, and other decorative interior furnishings.

Economic factors

The manufacture of broadwoven fabrics of manmade fibers is basically labor intensive (see section on domestic industry, U.S. employment). The equipment used is not usually complex. The manufacturing process rarely changes except in the area of weaving speeds. U.S. and foreign technology in broadwoven manufacture is similar, with only slight differences occurring in loom structure. Proprietary technology is generally lacking and incidental only in the appearance and feel of the woven fabric.

Broadwoven fabrics of manmade fibers are principally intermediate products. They are usually consumed by other manufacturing plants which process them into industrial or apparel goods. They are interchangeable generally only with other manmade-fiber fabrics, although natural-fiber fabrics may occasionally be substituted at higher prices. The variety of fabrics woven caters to diversified markets so that difficulties in one segment of the broadwoven fabric market rarely affect its entire output. Internationally, there is little difference among fabrics used for the same purpose.

Today many of the looms used by the weavers of broadwoven manmade-fiber fabrics are relatively new. Considerable capital outlay is required on the part of the weavers for the equipment (up to $20,000 for a conventional box loom with no attachments, to more than $40,000 to $60,000 for a shuttleless loom). Usually, once the looms have been installed, the weaver must gear his production to their capability. Even slight adjustments in the looms to weave another fabric are expensive and time consuming.

Customs Treatment and Related Policy Factors

The rates of duty applicable to imports (see general headnote 3 in the Tariff Schedules of the United States Annotated 1976) are as follows:

(Cents per pound; percent ad valorem)

TSUS item No.	Commodity description	Rates of duty		
		Col. 1 (Trade agreement) rate		Col. 2 rate 1/
		Prior to Jan. 1, 1968	Present	
	Woven fabrics, of manmade fibers:			
	Containing over 17 percent of wool by weight:			
338.10	Valued not over $2 per pound	30¢ + 50%	15¢ + 25%	60¢ + 70%
338.15	Valued over $2 per pound	30¢ + 30%	15¢ + 25%	50¢ + 70%
	Other:			
338.30	Other, except glass	25¢ + 22.5%	13¢ + 22.5%	45¢ + 70%

1/ Applicable to designated Communist-dominated countries; however, imports from Poland, Romania, and Yugoslavia enter under col. 1 rates.

The rates in effect prior to January 1, 1968, had remained unchanged from August 31, 1963 (the effective date of the Tariff Schedules of the United States), through 1967. The present rate is the result of concessions granted by the United States in the sixth round of tariff negotiations concluded on June 30, 1967, under the General Agreement on Tariffs and Trade (GATT). Concessions amounting to a reduction of about 50 percent in the specific portions on items 338.10, 338.15, and 338.30 were granted by the United States in that round of trade negotiations. In addition, the ad valorem part of the duty under item 338.10 was reduced by 50 percent while for item 338.15 the ad valorem part was reduced by only 17 percent. The ad valorem part of item 338.30 was not reduced.

On the basis of investigation No. AA1921-116, the United States International Trade Commission in 1973 1/ unanimously made a negative injury determination under section 201(a) of the Antidumping Act, 1921, as amended, with respect to imports of impression fabric of manmade fiber from Japan. Currently (1977), another antidumping complaint on such fabric imports from Japan is being investigated by the Treasury Department.

The European Community has lower rates (14 to 17.5 percent ad valorem) on broadwoven fabrics of manmade fibers than the United States; two members of this customs union, the United Kingdom and West Germany, are leading U.S. export markets for such fabrics. Both countries reduced these rates about 50 percent at the last GATT negotiations; however, since the United Kingdom was not a member of the community during the negotiations, it had to reduce its rates of duty further when it joined.

Other important U.S. markets with their rates of duty for manmade-fiber woven fabrics are shown in the following tabulation:

Country	Rate of duty
Canada	25% ad val. + 15¢ per lb
Dominican Republic	25% ad val. + 10¢ per lb
Republic of the Philippines	70% ad val.
Republic of South Africa	varies between 10% and 80% ad val. 1/
Australia	39% ad val. or 17¢ per lb

1/ Most imports from the United States are assessed at 20% ad val.

Almost all these rates are the result of 50-percent reductions in the last GATT negotiations.

1/ See Impression Fabric of Manmade Fiber from Japan * * * Investigation No. AA1921-116 . . ., TC Publication 557, May 1973.

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The developing countries generally have more nontariff barriers on woven manmade-fiber fabrics than the developed countries. The more common of these include quantitative restrictions, foreign exchange restrictions, import quotas, and restrictive licensing practices. Important U.S. markets among the developing countries such as Hong Kong, the Republic of China (Taiwan), the Republic of the Philippines, and the Republic of Korea have some of the above nontariff barriers against imports of manmade-fiber woven fabrics from the United States, but potential U.S. markets, especially the nations of Africa and South America, at least presently, have even more.

Among the developed countries important in the fabric trade, most have nontariff barriers and other agreements that restrain imports. For example, the United States is a party to the Arrangement Regarding International Trade in Textiles (Multifiber Agreement or MFA) which provides mechanisms for limiting the level of trade of most textile and apparel articles of cotton, wool, and manmade fibers. A number of large U.S. markets in the developed countries have certain trade barriers on broadwoven fabrics of manmade fibers as shown in the following tabulation:

Country	Nontariff barrier
Canada----------	Restrictive product standards
West Germany----------	Quantitative restrictions or import quotas, restrictive licensing practices
Republic of South Africa---	Quantitative restrictions, limited number of permits for importing fabrics, restrictive licensing practices
Australia----------	Quantitative restrictions, an arbitrary classification of fabrics (judgements by customs officials requiring that higher rates of duty be imposed first)

Under article 4 of the MFA, the United States in 1977 had bilateral textile agreements that restricted some or all categories of woven fabrics of manmade fibers from Taiwan, Colombia, Hong Kong, the Republic of Korea, Macao, Malaysia, Mexico, Singapore, Thailand, Haiti, the Philippines, Japan, and Romania. These bilaterals restrain, on a quantitative basis, the exports of woven fabrics to the United States.

The MFA is a multilateral arrangement under the GATT, negotiated under the auspices of the GATT Council and its Working Party on Textiles by representatives of some 50 governments in late 1973. It seeks to provide a cooperative, multilateral framework to deal with special problems respecting international

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trade in textiles and to minimize situations of market disruption. In the context of international legislation respecting international trade in textiles, the MFA is the successor to the Long-Term Arrangement Regarding International Trade in Cotton Textiles (LTA), which was in effect from October 1, 1962, to September 30, 1973. The LTA itself was preceded by a 1-year Short Term Arrangement Regarding International Trade in Cotton Textiles.

While the MFA provides a multilateral framework for controlling international textile trade, it also provides that participating countries may, consistent with the basic objectives and principles of the MFA, conclude bilateral agreements on mutually acceptable terms in order to: (1) eliminate real risks of market disruption in importing countries and disruption to the textile trade of exporting countries, and (2) ensure the expansion and orderly development of trade in textiles and the equitable treatment of participating countries. The United States has entered into a number of bilateral agreements to achieve the above objectives.

Domestic Industry

Structure

In 1963, over 250 firms operated more than 325 establishments weaving broadwoven fabrics of manmade fibers. In 1967 about the same number of firms operated more than 375 plants, but by 1972 the same number of firms operated more than 400 establishments. According to trade sources, the number of firms stayed approximately the same up to and including 1977, but the number of plants had increased to accommodate the expanding demand for fabrics of manmade fibers. According to trade sources, some of the smaller and less efficient firms went out of business between 1963 and 1972, but these were more than compensated for by other firms entering into the production of woven fabrics of manmade fibers and by many formerly exclusively cotton mills which switched to the production of these fabrics. Industry sources indicate that fewer than a dozen firms went out of business between 1973 and 1977, less than between 1963 and 1972.

In the 1970's about one-half of these establishments were located in the South Atlantic States, about 40 percent of these in South Carolina and about 33 percent in North Carolina. Approximately one-fourth of the plants are in the Middle Atlantic States; about one-half of these are in Pennsylvania, and the remaining ones are split between New Jersey and New York. Less than one-eighth were located in the New England States and these principally in Rhode Island and Massachusetts.

Large integrated corporations now dominate the manmade-fiber broadwoven fabric industry. They operate about one-third of the establishments but account for most of the domestic production. The largest of these are shown in the tabulation below:

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Firm	Location of plants
Abney Mills	South Carolina
Avondale Mills	Alabama, Georgia, North Carolina
The Bibb Co	Georgia
Burlington Industries, Inc	Georgia, North Carolina, South Carolina, Virginia
Cannon Mills Co	North Carolina, South Carolina
Collins & Aikman Corp	North Carolina, South Carolina
Cone Mills Corp	North Carolina
Dan River, Inc	Alabama, Georgia, South Carolina
Deering Milliken, Inc	Georgia, North Carolina, South Carolina
Greenwood Mills	South Carolina
M. Lowenstein & Sons	South Carolina
Mount Vernon Mills, Inc	Alabama, Georgia, North Carolina, South Carolina
Reeves Brothers, Inc	Georgia, North Carolina, Virginia
Spartan Mills	South Carolina
Spring Mills, Inc	North Carolina, South Carolina
J. P. Stevens & Co., Inc	North Carolina, South Carolina
United Merchants & Manufacturers, Inc	Georgia, North Carolina, South Carolina
West Point Pepperell, Inc	Alabama, Georgia, South Carolina

The above-named corporations are believed to produce over one-half of the broadwoven fabrics of manmade fibers in the United States.

In 1972, fewer than 75 establishments producing woven fabrics had fewer than 20 employees; these small establishments are usually family-owned enterprises. An additional 100 firms, most of which are also family-controlled, are believed to have fewer than 100 employees.

Over one-half of the mills are integrated, i.e., they manufacture the yarn used in weaving their fabrics. A few mills are integrated forward to the production of apparel and household articles. Many mills use both domestic and imported yarns.

The integrated mills generally act as distributors for their fabrics and have their own sales organizations. A large number of mills are commission

weavers which perform the weaving process for others, usually converters. 1/ A small portion of the producers are independent weavers that purchase yarns or have them prepared by others; they weave fabrics almost entirely on order by their customers. Many mills also dye and/or finish the fabrics they weave. In 1977, more than one-half of the gray fabric production was sent to establishments (other than the weaver's) which specialize in finishing and dyeing fabrics. These ancillary mills usually process the fabrics for the weavers or converters on a commission basis.

Equipment

Manmade-fiber broadwoven fabrics are made from filament (continuous fibers) and/or spun (discontinuous fibers) yarns. In the United States most of these yarns, according to trade sources, are produced in plants separate from the weaving establishments, but substantial quantities are also manufactured in the same plant as the fabric. Before converting into fabric, most yarns are transferred by winders, spoolers, and other equipment, in the weaving plants onto packages suitable for using on the looms therein.

The yarns are received by the weaving plant in a number of forms: beams, bobbins, cakes, cones, pirns, spools, tubes, and skeins. Beams are large, horizontal cylinders or spools upon which the warp (a yarn that runs lengthwise in cloth made on a loom) is wound and are used mostly in mills that weave large quantities of fabric of one type. Bobbins are spool-like devices upon which filling yarn (a yarn which interlaces with the warp yarn at right angles in weaving a fabric) is wound for use in a shuttle in weaving. Cakes are generally formed of filament yarns which are given a slight twist and run into a fast-spinning hollow cylinder or pot where they are then collected by centrifugal force in a round shape with an open center; much rayon is wound in cakes for shipping to weavers. Tubes are also used mainly as a base for winding filament yarns; textured yarns and grouped filaments (see separate summary) are generally shipped on tubes. Cones, pirns, spools, and skeins may be used for filament or spun yarns; the form in which the yarn is wound is dependent principally on the desires and requirements of the weavers.

After receiving the yarns, the weaver prepares them for the looms. This consists basically of transferring the yarns to containers which may be used directly on the looms. Transfer equipment normally consists of winders or spoolers. Winders wind bobbins or cones or other packages of yarn onto filling bobbins for introduction into a shuttle. Spoolers wind bobbins, tubes, or other packages into a more suitable form for use in weaving. Other preparatory equipment, including warpers, may also be utilized by the weaver, at his discretion, to process yarns prior to weaving. Warpers wind a number of yarns from creels, or racks, on section beams for use in weaving fabrics.

1/ Converters buy the gray-woven goods from weaving mills or have them woven on commission and then dyed, printed, and otherwise processed by job-finishing plants. Their function is primarily that of merchandising and selling finished fabrics to garment manufacturers and other users.

The loom is the basic equipment used in manufacturing broadwoven fabrics. It causes the yarns to interlock and form a flat-lying fabric. There are different types of looms used to create fabrics for various optical effects as well as for practical applications. The largest number of looms in use today are basically plain types consisting of box or fancy-weave looms. Others include dobby looms, jacquard looms, leno or doup looms, lappet looms, swivel or clip-spot looms, shuttleless looms, and weaving machines which have characteristics unlike contemporary looms. The looms weave broadwoven fabrics in various widths ranging from about 12 inches to more than 100 inches.

According to Bureau of Census data, box or fancy-weave looms accounted for about 70 percent of the looms operating in the broadwoven manmade-fiber industry in 1977. Box looms allow different colors of filling to be woven into the fabric by raising or lowering the harnesses into the weaving plane. Attachments to the box loom permit a variety of fabrics to be woven on the same loom in different colors and weave variations. Box or fancy-weave looms weave principally men's and women's wear fabrics.

Dobby looms accounted for about 20 percent of the operating looms in the manufacture of broadwoven fabrics of manmade fibers in 1977. Dobby looms weave small geometric figures on plain-woven fabrics. This loom differs from a box loom in that it may have up to 32 harnesses (these cause up-and-down movements in a loom) and a pattern chain. Dobby looms also weave mainly apparel fabrics.

Shuttleless looms accounted for over 7 percent of the looms operating on broadwoven fabrics of manmade fibers in 1977. They are operated by air-jets or water-jets and increase the speed of producing simple fabric patterns; but the looms can usually utilize only yarns with a high breaking point. The speed of these looms is sometimes twice as fast as a box loom operating on a fancy fabric. Shuttleless looms are used to weave industrial fabrics and simple apparel fabrics.

Jacquard, leno or doup looms, lappet looms, and swivel or clip-spot looms accounted for the remaining 3 percent of the looms operated on broadwoven fabrics of manmade fibers in 1977. These looms are used for special work to create novelty or fancy effects in fabrics. They are much more expensive to operate than the other looms mentioned here and are used almost entirely for fabrics cut into home furnishings and apparel.

Some weaving plants also have equipment to apply certain finishes on the fabrics they produce. These include bleachers, dyeing machines, and special finish machines. These machines bleach, white-finish, plain-dye, and print woven fabrics and apply special finishes such as flameproofing, mildew-proofing, and embossing. According to the Bureau of the Census, less than 40 percent of the manmade-fiber broadwoven fabric establishments in the United States in 1976 had finishing and similar machines.

U.S. production

As shown in table 1, appendix I, production of broadwoven fabrics of manmade fibers increased from 5,781.4 million square yards, valued at $1,454.5 million, in 1967 to 7,027.8 million square yards, valued at $1,734.6 million, in 1969 and then declined in 1970 to 6,731.1 million square yards, valued at $1,397.5 million. In 1971, production again began to increase, and before stabilizing reached a 1967-76 period high of 8,509.9 million square yards, valued at $2,660.8 million, in 1973. The next 2 years, 1974 and 1975, registered declines, but in 1976 production again increased and amounted to an estimated 8,089.5 million square yards, valued at $2,669.5 million. The declines followed the cyclical business trend during the 1967-76 period.

Shipments of broadwoven fabrics of manmade fibers were overwhelmingly from the South Atlantic States, which, according to Bureau of Census figures, shipped over 80 percent of the value of such fabrics in 1972; trade sources indicate that this percentage was slightly lower in 1977. Further detail indicates that over two-thirds of these shipments were sent specifically from North and South Carolina. Most shipments were delivered to the apparel industry, whose plants are located principally in the Northeastern and Southern States and California.

The composition of the broadwoven manmade-fiber production in 1977 is shown in the following tabulation:

Manmade fiber and yarn composition	Percent of production
100% filament yarn fabrics:	
100% filament acetate and triacetate fabrics	5
100% filament nylon fabrics	8
100% filament polyester fabrics	9
Other 100% filament fabrics including rayon and all filament mixtures	4
100% spun yarn fabrics:	
Spun rayon and/or acetate fabrics	2
Spun polyester fabrics	59
Other 100% spun yarn fabrics including acrylic	2
Combinations of filament and spun fabrics	7
Upholstery, tapestry, drapery, bedspread, and tie fabrics	4

The largest category, spun polyester fabrics, is dominated by polyester-cotton mixtures, especially bedsheeting, broadcloth, yarn-dyed fabrics, twills, print cloths, poplins, and batistes. Also important in this category are polyester-rayon print cloths. The filament nylon category contains mainly taffetas and industrial-type fabrics. The filament polyester category consists principally of textured-yarn fabrics and light fabrics such as marquisettes and ninons. Filament acetate and triacetate fabrics are mainly taffetas and satins. A more extensive breakdown on production by types from 1972 to 1976 is shown in table 2.

U.S. producers' inventories

End-of-year inventories have been recorded by the U.S. Department of Commerce in Census of Manufactures years 1/ for manmade-fiber and silk-weaving mills (Industry 2221). 2/ The value of inventory held by mills weaving broadwoven fabrics of manmade fibers is estimated from the Bureau of Census figures to amount to about $580 million in 1967, $375 million in 1972, $722 million in 1974, and about $800 million in 1976.

U.S. employment

The number of employees for Industry 2221 is published by the Bureau of the Census. The number estimated from this data for establishments manufacturing broadwoven fabrics of manmade fibers for 1967-76 is shown in the following tabulation:

Year	Employees
1967	100,000
1968	124,000
1969	132,000
1970	140,000
1971	135,000
1972	145,000
1973	142,000
1974	141,000
1975	142,000
1976	141,000

Another 30,000 persons were employed in 1976 in the ancillary mills that finish and/or dye these fabrics. Some individual manmade-fiber weaving plants have over 1,000 employees; yet there are still a considerable number having fewer than 20 employees. As the tabulation above indicates, employment in weaving plants making fabrics of manmade fibers showed almost yearly increases until 1972 because of the expanding demand for these fabrics. When the market reached its saturation point in the middle 1970's, employment stabilized, but occasional recessions have caused temporary reductions in the labor force.

1/ A detailed Census of Manufactures for Industry 2221 does not come out every year.

2/ Census of Manufactures for Industry 2221 refers to establishments primarily engaged in weaving fabrics over 12 inches in width, wholly or chiefly by weight of silk and manmade fibers, including glass. It should be noted, therefore, that these mills could (and do) produce some products other than those covered by this summary. Also, it should be noted that other types of establishments (e.g., broadwoven fabric mills, cotton) produce some products covered by this summary.

The average hourly wage for weaving-mill workers has increased consistently since 1962 and at a slightly faster pace than the average for all manufacturing workers. According to data published by the U.S. Department of Labor, Bureau of Labor Statistics, the average hourly wage from 1963 to 1976 for weaving-mill and all manufacturing workers is tabulated below:

Year	Weaving mills	All manufacturing
1963	$1.70	$2.46
1964	1.82	2.53
1965	1.97	2.61
1966	2.06	2.72
1967	2.13	2.83
1968	2.24	3.01
1969	2.45	3.19
1970	2.49	3.36
1971	2.67	3.57
1972	2.79	3.81
1973	3.01	4.07
1974	3.30	4.40
1975	3.50	4.81
1976	3.83	5.19

Labor payrolls generally account for 53 to 59 percent of value added by manufacture in weaving plants making broadwoven fabrics of manmade fibers. According to data published by the U.S. Department of Labor, Bureau of Labor Statistics, average weekly gross earnings of each employee from 1970 to 1976 is shown in the following tabulation:

Year	Weaving mills	All manufacturing
1970	$101.09	$133.71
1971	108.58	142.36
1972	119.11	154.46
1973	127.62	165.65
1974	132.33	176.00
1975	136.50	189.51
1976	155.50	207.72

The average weekly gross hours worked by each employee is shown in the following tabulation according to data published by the Bureau of Labor Statistics from 1970 to 1976:

	Weaving mills	All manufacturing
1970	40.6	39.8
1971	41.6	39.9
1972	42.8	40.6
1973	42.4	40.7
1974	40.1	40.0
1975	39.0	39.4
1976	40.6	40.1

The above tabulations indicate that while hourly and weekly wages were increasing, the number of hours put in by each employee remained about the same. Hourly wages more than doubled since 1963, and weekly wages increased by more than 50 percent from 1970 to 1976.

Unskilled workers with some manual dexterity can be readily trained for most jobs in a broadwoven fabric mill. They draw the lowest wages, generally just a bit above the minimum wage for firms dealing in interstate commerce. Loom workers, however, are highly skilled employees and require years of experience. Their hourly wages easily exceed $5.00. Information from trade sources indicates that these loom workers, however, account for less than 10 percent of the total labor force in a weaving mill.

Materials consumed and other costs

The following table shows the quantity of yarns consumed in Standard Industrial Classification (SIC) Industry 2221--Weaving Mills, Manmade Fiber and Silk.

Yarns consumed by Industry 2221, by principal types of fibers, specified years, 1967-76

(In millions of pounds)

Type of fiber	1967	1973	1975	1976 1/
Cotton:				
All cotton	151.0	233.0	176.6	157.3
Blends and mixtures	108.4	204.8	258.1	382.2
Rayon and acetate:				
Spun yarns	160.9	125.8	63.3	136.2
Filament yarns	255.6	193.9	104.7	105.1
Blends and mixtures	146.6	110.8	90.7	83.2
Nylon:				
Filament yarns	64.9	88.7	68.8	315.1
Other	9.8	24.3	11.2	40.0
Polyester yarns including blends	239.1	460.4	683.9	956.7
Acrylic yarns	27.0	26.8	11.2	18.0

1/ Partially estimated. Bureau of the Census no longer separates manmade fiber from cotton broadwoven fabrics in its data on yarn consumption.

Source: Compiled from official statistics of the Bureau of the Census.

Almost all of the above yarns were consumed specifically by mills weaving broadwoven fabric of manmade fibers covered by this summary; less than 6 percent were consumed by mills weaving fabrics such as glass and silk. The trend is obvious--the consumption of polyester yarns has quadrupled since 1967; that of rayon and acetate has declined; that of cotton has held its own in the 1970's; that of nylon has remained about the same from 1967 to 1975, but almost tripled from 1967 to 1976; and that of acrylic has declined.

The cost of certain fibers and yarns consumed by mills weaving primarily broadwoven fabrics of manmade fibers is shown in the table below.

Cost of certain fibers and yarns consumed by mills weaving primarily broad-woven fabrics of manmade fibers, by types, 1967, 1972, and 1976

(In millions of dollars)

Type of fiber	1967	1972	1976 1/
Raw cotton	83,5	245.3	334.6
Raw wool and wool tops	21.7	5.5	8.5
Rayon and acetate staple and tow	84.8	224.0	238.3
Polyester staple and tow	1/ 110.0	209.0	429.5
Rayon and acetate filament yarn	193.5	146.4	78.8
Polyester filament yarn	1/ 90.0	146.1	489.2
Purchased spun yarn (all types)	188.0	334.5	324.6

1/ Estimated from Bureau of Census figures using average prices reported for each fiber listed.

Source: Compiled from official statistics of the Bureau of the Census.

Items identified above as yarn are purchased by weavers from yarn manufacturers. The other fibers indicated in the table are those purchased by weavers that twist their own yarns (integrated mills). In 1967, more weavers purchased yarn from yarn manufacturers than twisted their own yarns; by 1976, the situation was reversed. More than 62 percent of the yarn used in weaving fabrics was purchased by manmade-fiber broadwoven fabric mills in 1967 and only 47 percent in 1976.

The previous tables also reveal some other facts. In spite of the declining consumption of rayon and acetate (a slight increase occurred from 1975 to 1976), the overall costs of the fibers did not decline. Although cotton consumption remained relatively stable (a slight increase also occurred here from 1975 to 1976), its costs to the mill continued to rise (more than tripled from 1967 to 1976). Polyester consumption more than quadrupled from 1967 to 1976; so did its costs, indicating that its price did not increase as much as rayon and acetate and cotton.

Average annual costs to the mill per pound for certain fibers are shown in the table below.

Average cost to the mill for certain fibers, by types, 1972-76

(Per pound)

Fiber	1972	1973	1974	1975	1976
Raw cotton 1/	$0.37	$0.61	$0.62	$0.52	$0.74
Raw wool 2/	1.60	2.35	1.35	1.75	1.90
Rayon staple 3/	.31	.33	.51	.51	.54
Polyester staple 4/	.35	.37	.46	.48	.53
Polyester yarn 5/	1.82	1.82	1.68	1.38	1.30
Acetate yarn 6/	.69	.69	.69	.74	.74

1/ Middling 1-1/16-inch staple.
2/ Domestic fine graded territory wool (combing and staple, clean basis, on the open market at Boston).
3/ 1.5 and 3.0 denier, regular rayon staple.
4/ Reported average market price for 1.5 denier polyester staple for cotton blending.
5/ List price for polyester multifilament, 70 denier, 24 filaments, semi-dull, 0.5Z twist on pirns.
6/ List price for acetate multifilament, 150 denier, 40 filaments, dull, spinning twist, on 4- and 8-pound cones.

Source: Compiled from data reported in various government and trade publications.

The other important costs for industry 2221 were for fuel and electric energy. In 1967 these items cost $35.4 million, of which 76 percent was for purchased electric energy; and in 1974 they cost $101.6 million, of which 86 percent was for purchased electric energy. The cost of fuel and energy, however, in both years, was small compared with that of fibers (including yarn) and amounted to less than 2 percent of total costs in each year. According to an index published by the Bureau of the Census, the amount of electric power consumed in weaving fabrics in 1974 and 1976 rose only 3.2 and 4.4 percent, respectively, above 1967. The costs of electric power consumed are not yet available for 1976, but they, like other costs in broadwoven fabric weaving, rose considerably from what they were in 1974. In recent years, substantial expenditures have been made by firms to make their broadwoven fabric mills meet the regulations of the Occupational Safety and Health Administration; such costs are not available for fabric mills but the expenditures for the entire textile industry totaled $37 million in 1976.

Value added by manufacture, cost of materials and fuels, value of industry shipments, and new capital expenditures for Industry 2221, are shown in the following table.

Selected costs for Industry 2221, specified years, 1968-76

(In millions of dollars)

Item	1968	1970	1972	1974	1976 1/
Value of industry shipments	2,918.3	3,171.6	3,856.5	4,776.8	4,140.0
Value added by manufacture	1,273.8	1,416.6	1,831.6	2,192.3	2,484.0
Cost of materials and fuels	1,662.6	1,767.3	2,062.6	2,668.6	3,011.0
New capital expenditures	85.7	105.9	136.2	192.8	162.0

1/ Data for 1976 have not yet been published by the Bureau of the Census for Industry 2221, but trade sources indicate that the ratio between the categories has not changed much from the data shown above. Most of the value in the above dollar categories can be attributed to mills weaving broadwoven fabrics of manmade fibers. Although specific statistics for value of industry shipments in 1976 for Industry 2221 are not available, all textile value of industry shipments amounted to $37,634 million in 1976 (Bureau of the Census). Value of industry shipments for Industry 2221 has been about 11 percent of all textile value of industry shipments; based on this ratio, this value is estimated to be about $4,140 million in 1976 for Industry 2221. For value added by manufacture in Industry 2221, the estimate would be $2,484 million. For cost of materials and fuels in Industry 2221, the estimate would be $3,011 million. In appendix II is a chart showing all textile industry capital expenditures from 1966 to 1976 and an estimate for 1977. Broadwoven fabrics of manmade fibers are estimated to account for about 20 percent of the figures shown in the chart. Based on this ratio, capital expenditures for 1976 for these fabrics would be about $162 million. Again referring to the chart in appendix II, a notable trend shown is the textile industry capital expenditures in 1967 dollars; the trend can also be applied to the industry making broadwoven fabrics of manmade fibers.

Source: U.S. Census of Manufacturer, except as noted.

Profit ratios for mills manufacturing broadwoven fabrics of manmade fibers are not available, but those for companies making textile mill products, which would include these fabrics, have usually been less than 3 percent of sales from 1972 to 1976, as shown in the table below.

Corporate profit data for the textile mill products industry, 1972-76

Item	1972	1973	1974	1975	1976
Sales----------million dollars--	25,616	29,113	31,220	28,632	33,932
Net profits----------do--------	656	831	780	409	809
Profit per dollar of sales----------percent--	2.6	2.9	2.5	1.5	2.4
New plant and equipment expenditures per dollar of sales----------do----	3.0	2.7	2.7	2.2	4.2
Profit on stockholders' equity----------do----	7.5	9.6	8.0	4.4	8.0

Source: Compiled from official statistics of the Federal Trade Commission.

The principal sources of working capital for mills manufacturing broadwoven fabrics of manmade fibers are: (1) stockholders' equity, (2) factoring accounts receivable, (3) operating revenues, (4) lead time on accounts payable, and (5) bank loans. Small financing transactions for working capital within the fabric mills normally come from the operating revenues of the weaving company; larger transactions are usually financed by bank loans.

The domestic mills generally manufacture broadwoven fabrics of manmade fibers for their principal source of income. Some of the larger companies also manufacture other products such as knit fabrics, yarns, hosiery and socks, carpets and rugs, home furnishings, plush and pile fabrics, fabric foam, glass fabrics, and textile dyes and chemicals. However, in the establishments that make both woven fabrics and other products, the other products manufactured are usually in some way related to the weaving of fabrics.

Foreign Industry

Firms and establishments

Domestic sources estimate that over 2,000 plants make broadwoven fabrics of manmade fibers in countries outside the United States. The number of establishments has increased in the last decade; they increased in greatest numbers in the countries of Europe and Asia. Many of the mills in the European countries were formerly cotton plants that switched to the production of broadwoven fabrics of manmade fibers and their blends with cotton. But the establishments in Asia, particularly Japan, are mainly new ones especially built to manufacture manmade-fiber fabrics. The newer plants are located predominantly in the developed countries of both continents. New plants are also being constructed, in fewer numbers, in North America, Australia, and South America.

As in the United States, large integrated corporations dominate the manmade-fiber broadwoven fabric industry in most of the foreign countries where these fabrics are produced in any large quantity. They account for the majority of the production in such countries as Japan, Canada, the United Kingdom, West Germany, France, Venezuela, Colombia, Mexico, and the Benelux countries (Belgium, Netherlands, and Luxembourg). Like the United States, only a few foreign mills are integrated forward to the production of apparel and household articles, but overall, more foreign establishments are integrated backward to the production of yarn than in the United States. The latter integration is particularly prevalent in Japan and the countries of Western Europe. The mills that do not produce all of their own yarn use both domestic and imported yarns (including that from the United States).

Looms

According to the International Federation of Cotton and Allied Textiles Industries, more than 3 million looms, 18 inches or more wide, were operating in the world in 1976 on all woven textiles. More than 60 percent of these looms are "automatic looms with automatic attachments"; the remainder are identified by the association as "ordinary" looms. According to the International Trade Board of Japan almost 200,000 of these looms were shuttleless looms in 1976. Of the 3 million operating in the world in 1976, about 1.2 million looms operate on making broadwoven fabrics of manmade fibers.

The leading producing nations of broadwoven fabrics of manmade fibers other than the United States are: Japan, the Soviet Union, West Germany, the United Kingdom, France, Italy, Taiwan, and the Republic of Korea. Except for the Soviet Union, for which no data are available, the estimated number of looms operating in 1975 in each of these countries is shown below:

Country	Looms
Japan	455,000
Italy	120,000
France	113,000
United Kingdom	110,000
West Germany	100,000
Republic of Korea	93,000
Taiwan	65,000

The looms in the United States operating on broadwoven fabrics of manmade fibers amounted to 162,000 in 1975. The figures above include looms operating on fabrics other than manmade, but in all of the above-listed countries, the majority of the looms operated on broadwoven fabrics of manmade fibers. About 20,000 of the looms listed for Japan are shuttleless and another 250,000 are automatic types. In the European countries about 80 percent of the looms are automatic.

Foreign production

There is no official statistical data available on total foreign production of broadwoven fabrics of manmade fibers. Information made available to the U.S. International Trade Commission from various domestic and foreign sources indicates that the foreign production in 1976 was estimated between 25 and 30 billion linear yards, valued at approximately $10 billion. Production is concentrated in Eastern Asia and Western Europe. Most production in the larger textile countries is consumed by apparel industries located within those countries.

Japan, the Soviet Union, West Germany, France, the United Kingdom, Italy, Taiwan, and the Republic of Korea are the leading foreign producers of broadwoven fabrics of manmade fibers. Data on production of these fabrics are not available for the Soviet Union, Italy, Taiwan, and the Republic of Korea. The production of the other four countries as reported by the Organization for Economic Co-operation and Development (OECD) for 1972 to 1975 is shown in the following table:

Country	1972	1973	1974	1975
Japan----------million square meters—	3,989	4,215	3,606	3,247
West Germany----------metric tons--	162,024	173,760	165,950	159,331
France----------do------	97,910	106,484	109,356	94,077
United Kingdom----------do------	83,506	67,009	92,203	91,921

The composition of the production in countries outside the United States consists basically of the same manmade fibers used in broadwoven fabric output in the United States. However, for total foreign production, the percentage accounted for by each fiber does vary considerably. Spun polyesters make up the largest category, as in the United States (discussed previously) but their percentage of all foreign production is smaller, less than 40 percent according to some estimates. All filament nylon fabrics constitute the second largest, about 25 percent; and all filament rayon and acetate fabrics are third, with about 20 percent of all foreign production. The remainder is split unevenly among all filament polyester fabrics, spun rayon and/or acetate fabrics, spun acrylic fabrics, and other all filament noncellulosic fabrics.

Employment

No specific data on total foreign employment in the manmade-fiber broadwoven fabric industry are available. Several domestic and foreign sources estimate such employment to be probably in excess of 1 million persons. Another million work indirectly with the industry in such areas as apparel, home furnishings, and industrial products. Data on the number of persons employed in spinning, weaving, and finishing of textiles for three of the

important producer countries as reported by OECD for 1972 to 1975 are shown in the following tabulation:

(In thousands)

Country	1972	1973	1974	1975
Japan	622.2	597.4	537.6	509.5
United Kingdom	317.6	310.8	300.4	275.0
West Germany	243.2	234.6	212.1	191.3

The proportion directly employed in the mills weaving broadwoven fabrics of manmade fibers is about 75 percent.

The U.S. Department of Labor, Bureau of Labor Statistics, has produced some studies on hourly wage rates on all textiles for certain countries of the world. On the basis of these studies the average hourly wage for weaving mill workers may be estimated, as shown in the following table.

Average hourly wage received by employees in the textile industry, by specified countries, specified years, 1963-77

(U.S. dollars per hour)

Country	1963	1967	1970	1972	1977
United States	$1.70	$2.13	$2.49	$2.79	$3.75
United Kingdom	.76	.92	1.10	1.23	1.68
West Germany	.75	.90	1.08	1.21	1.65
France	0.59	0.71	0.86	0.96	1.31
Italy	.47	.57	.68	.77	1.05
Japan	.35	.43	.51	.57	.78
India	.30	.36	.44	.49	.67
Hong Kong	.28	.34	.41	.46	.63
Republic of Korea	.23	.28	.34	.38	.52
Taiwan	.22	.26	.31	.35	.48

Source: Compiled from official statistics of the Bureau of Labor Statistics.

As shown in the previous table, the West European employers continue to pay more to their workers in broadwoven fabrics than the East Asian employers. No country shown above indicated stagnation or decline in wages paid to its fabric workers. In terms of basic hourly wages, all obviously are much lower than in the United States; the country with wage rates closest to the United States was the United Kingdom, with wages approximately 45 percent of those in the United States, and the farthest, Taiwan, with wages about 13 percent of those in the United States. In some countries, however, employers offer

fringe benefits to their workers that are not provided in other countries. Employers in Japan, for instance, build living quarters for their workers to inhabit and athletic facilities for their recreation. Employers in Italy have to provide some of their funds to support their workers' families on the basis of the number of children. Employers in India are encouraged to be paternalistic in providing food, clothing, and other necessities to the relatives of their workers.

Labor skills are the same worldwide--the broadwoven fabric mills depend in large part on an unskilled labor pool and they require highly skilled workers for operating the looms.

Materials consumed and other costs

Specific data on the materials consumed and other costs of the foreign broadwoven fabric industry are not available. The types of fibers consumed include cotton, wool, rayon and acetate, nylon, polyester, acrylic, and other noncellulosic fibers. Polyester yarns, including blends, according to trade sources dominate overall in the foreign industry; the next type is rayon and acetate yarns and blends, then nylon yarns, and cotton, acrylic, wool, and vinal yarns, in that order. Most of the yarns consumed in foreign plants are manufactured in the weaving mills, but much yarn is still obtained from establishments that specialize in spinning yarns. The latter is especially noticeable in the West European countries where many old-line firms continue to manufacture their yarns in separate plants.

Although cost data are not available for mills making broadwoven fabrics of manmade fibers, the Organization for Economic Co-operation and Development publishes an annual table on additional investment in the textile industry. Data are related here on four important fabric-producing countries from this tablulation.

(In millions of dollars)

Country	1972	1973	1974	1975
Japan	862.6	1/	1/	1/
West Germany	401.9	369.3	312.1	316.8
United Kingdom	244.1	405.4	502.1	1/
Italy	238.5	319.8	387.5	316.2

1/ Not available.

The amount invested in mills manufacturing broadwoven fabrics of manmade fiber is estimated to be about 20 percent of the totals shown in the tabulation.

Domestic Market

Apparent U.S. consumption followed closely the trend of domestic production of broadwoven fabrics of manmade fibers for 1967-76. In 1967 the consumption of such fabrics was 5.8 billion square yards, valued at $1.4 billion. It increased annually until 1969 when it was 7.1 billion square yards, valued at $1.7 billion. It dropped to 6.8 billion square yards, valued at $1.4 billion in 1970, but then increased regularly to a peak in 1973 of 8.4 billion square yards, valued at $2.6 billion. Annual declines occurred in 1974 and 1975 but consumption again rose to an estimated 8.0 billion square yards, valued at $2.6 billion, in 1976 (see table 1).

Much of the increase in apparent U.S. consumption since the 1960's resulted from the expanding demand, continuing at the present time, for broadwoven fabrics of manmade fibers to the detriment of broadwoven 100-percent cotton, wool, and silk fabrics. Fabrics of manmade fibers were effectively substituted for similar fabrics made from natural fibers. For example, rayon, acetate, and nylon fabrics replaced silk in many uses; rayon, nylon, and polyester fabrics replaced cotton and linen; and rayon, acrylic, and polyester fabrics replaced wool. Consumption increased because of new developments and product innovations in the manufacture of broadwoven fabrics of manmade fibers. Two examples are blended fabrics and special finish fabrics such as easy care and durable press types. Other reasons for the expansion of consumption include an availability of large and steady supplies of raw materials, relatively stable prices, and an increasing acceptance of manmade fibers by the consumer.

The principal consumers of broadwoven fabrics of manmade fibers are other manufacturing plants which usually cut and/or sew them into industrial or apparel articles. There are over 10,000 of these establishments located mainly in the Northeastern and Southern States and California. Many are small plants able to purchase only limited quantities, but a sizable number are large, capable of purchasing huge amounts of broadwoven fabrics. Large quantities of fabrics are staple (regular) purchases by apparel and industrial consumers, but notable quantities are purchased on a timely basis by apparel manufacturers who require such fabrics for highly fashionable goods sold to the retail trade.

Most of the larger broadwoven fabric firms have their own sales staff. In the smaller firms the president or owner of the company does much of the selling. Sales people generally deal with other manufacturing firms; a few cater to firms located in foreign markets. Much selling is done by telephone, especially for repeat orders; other selling is accomplished at the offices of the manufacturing plants. Usually, the latter method is used when a broadwoven fabric firm attempts to obtain new customers for its products.

Some weavers do institutional advertising in order to reach their apparel and industrial customers; but most advertise directly to the apparel or industrial firm's market (i.e., retail customers, ultimate consumer).

According to trade sources, most firms spend less than 1 percent of their sales for advertising. But some of the larger firms such as Burlington Industries, Inc., Dan River, Inc., M. Lowenstein & Sons, Spring Mills, Inc., and J. P. Stevens & Co., Inc., may spend as much as 5 percent of their sales for advertising.

Some large broadwoven firms, such as Cannon Mills Co., Collins & Aikman Corp., Burlington Industries, Inc., and Spring Mills, Inc., that create specialty fabrics or enter new markets have marketing specialists who design fabrics to meet the special needs of different markets. However, for normal operations, most weavers do not have a market research staff. Converters generally have important marketing divisions, mainly because of their merchandising functions. These converters also advertise principally to the apparel or industrial consumer's customers. Advertising expenditures often exceed 5 percent of the firm's sales. Individual importing firms usually do not have marketing specialists and rarely advertise in the U.S. market.

The following table shows the general price trends published by the Bureau of Labor Statistics, for certain groups of gray (not dyed or finished) broadwoven fabrics of manmade fibers and all industrial commodities.

Wholesale price indexes for gray broadwoven fabrics of manmade fibers and all industrial commodities, 1967-76

Year	Broadwoven fabrics of manmade fibers (1957-59 = 100)			All industrial commodities (1967 = 100)
	Cellulosic fabrics	Noncellulosic fabrics	Blends, chiefly noncellulosic	
1967	90.4	78.6	73.1	100.0
1968	109.9	88.9	78.0	104.0
1969	103.2	88.8	77.6	107.7
1970	84.6	79.9	69.2	110.0
1971	99.2	107.4	92.7	114.0
1972	110.5	126.9	109.5	117.9
1973	132.9	147.9	145.6	125.9
1974	130.9	131.9	147.9	153.8
1975	134.7	132.1	138.6	171.5
1976	110.3	112.4	122.9	182.3

Source: Compiled from statistics of the Bureau of Labor Statistics.

The above indexes show that broadwoven fabrics of manmade fibers did not increase as rapidly in price as did all industrial commodities combined. The cellulosic fabric price index exceeded the noncellulosic and blend indexes until 1970 and was lower than the noncellulosic index in every year following, with the exception of 1975; beginning in 1973, it was lower than the blend index. The noncellulosic fabric index climbed rapidly until 1973, exceeding the blends in every year, but in the succeeding years it was below the blend index. The blend index (which covers mainly mixtures with cotton and wool)

began lower than the other two in 1967, also increased rapidly until 1974, a year later than the noncellulosic index, and remained above the other two indexes from 1974 to 1976. The indexes above show rapid price movement for gray broadwoven fabrics of manmade fibers until the early 1970's; thereafter, prices declined and have remained at a lower level in the middle 1970's.

Broadwoven fabrics of manmade fibers are priced in cents per linear yard. The market prices of the fabrics are usually based on mill sales of average quality fabrics. Almost all prices, however, are agreed upon directly between weaver and customer, and rarely are substantial quantities of goods offered in the open market.

An estimated average unit price for all production of broadwoven fabrics of manmade fibers has been projected to range from 21 to 31 cents per square yard during the 1968-76 period, for imports from 59 to 76 cents per square yard, and for exports from 39 to 88 cents per square yard. All average prices generally increased toward the end of the period. It should be noted, however, that these average prices for imports and exports were continually higher than domestic production because they consisted primarily of average prices for finished fabrics, whereas average prices for U.S. output were entirely for gray (unfinished and undyed) goods. Domestic finished fabrics cost, on the average, an additional 40 to 50 cents per square yard in the 1968-76 period.

Foreign Markets

Overall foreign consumption figures for broadwoven fabrics of manmade fibers are not published. Using the foreign production figures shown previously in this summary, and not allowing for trade between the United States and all foreign markets, foreign consumption in 1976 hovered around 25 to 30 billion linear yards, valued at about $10 billion. Available information from various domestic and foreign sources tends to indicate that consumption among nations other than the United States was highest in Japan with an estimated 2.7 billion linear yards in 1976, followed by the Soviet Union with an estimated 2 billion linear yards. Other leading consuming nations include West Germany with about 1.6 billion linear yards in 1976; the United Kingdom with 1.4 billion; Italy with 1.2 billion; Taiwan with 1.0 billion; and the Republic of Korea with 0.9 billion.

Within the last decade, consumption of broadwoven fabrics of manmade fibers increased in all the principal foreign markets shown above. The most rapid increases were registered by East Asian countries: Japan, Taiwan, and the Republic of Korea. Consumption expanded for the same reasons as in the United States: substitution of manmade fibers for cotton, wool, and other natural fibers; new developments and product innovations with manmade-fiber fabrics; and acceptance of manmade-fiber products by the foreign consumer.

As in the United States, the main consumers of broadwoven fabrics of manmade fibers are other manufacturing plants making industrial or apparel articles. All the above listed principal consuming countries have important apparel industries whose plants range in size from small specialty operations

to large clothing complexes manufacturing a number of apparel products. Japan, the Soviet Union, the United Kingdom, and Italy also consume significant quantities of broadwoven fabrics for industrial products such as filters, protective coverings, and machinery.

Among the largest consuming nations of broadwoven fabrics of manmade fibers, Japan, West Germany, the United Kingdom, and Italy have a significant number of small apparel plants. These, like those in the United States, manufacture goods known for their exclusiveness, beauty, and color. The small apparel plants generally purchase small amounts of fabrics from both imported and domestic sources. They usually finance their purchases through financial institutions. All the large nations which consume large amounts of broadwoven fabrics of manmade fibers have big firms which make large volume purchases of such fabrics. Most of these firms purchase their staple fabrics from their own domestic sources, but some may also import considerable amounts from the United States and other developed countries. Their fabrics are used mainly for volume apparel or industrial articles but there is also some shortrun production for special purposes. The large firms are able to make many of their purchases of fabrics with their own funds.

Fabric firms in Japan, West Germany, the United Kingdom, Italy, Taiwan, and the Republic of Korea organize their marketing efforts in much the same way as the United States. They have sales staffs, advertising budgets, and product research facilities. They also use converters to handle especially volatile apparel goods. Some of these firms, especially in Japan, Taiwan, and the Republic of Korea, emphasize exports of fabrics and employ a larger foreign marketing staff than many export-conscious U.S. firms. These firms have increased the exports of fabrics made within their countries to many countries of the world to such an extent that their countries show a larger share of total production exported than the United States. Firms located in the Soviet Union are Government-owned and rarely show market activity as do firms in an open competitive economy.

Overall prices on broadwoven fabrics of manmade fibers in foreign markets are not published. Wholesale prices for cellulosic fabrics, noncellulosic fabrics, and chiefly noncellulosic blends rose at about the same rate as in the United States in recent years. However, the rate of increase stagnated quicker for the three groups in Japan, the United Kingdom, Italy, and Taiwan. Rises in the price levels of these fabrics were still being recorded in 1977, however, in the Soviet Union, West Germany, and the Republic of Korea. Broadwoven fabrics in these countries are also priced in linear measurements, but in three--Japan, Taiwan, and the Republic of Korea--they are also priced on a square measurement basis. As in the United States, prices are generally negotiated between weaver and customer and not quoted on the open market. Some fabrics, however, especially in the East Asian countries, are occasionally offered in the open market, sometimes for internal consumption, other times for international consumption. The prices of these fabrics are normally lower than the usual recognized market prices for the same fabrics.

Foreign Trade--An Overview

Foreign trade, with respect to U.S. imports for consumption and U.S. exports of domestic merchandise, has expanded for broadwoven fabrics of manmade fibers. U.S. imports have increased in value almost steadily from $59 million in 1967 to $241 million in 1976. They ranged from 4 to 10 percent of the estimated value of consumption during this period. The value of U.S. exports tripled from $105 million in 1967 to $332 million in 1976 (table 1).

Throughout the 1970-76 period, Japan dominated the U.S. imports of broadwoven fabrics of manmade fibers, accounting for 80 to 85 percent in the period. The U.S. exports during the period have been, in the main, to Canada, the United Kingdom, West Germany, and the Republic of South Africa, which together accounted for about 40 to 50 percent of the total value in each year.

The great bulk of the world production of broadwoven fabrics of manmade fibers is consumed internally by the producing countries. Less than 20 percent enters international trade channels, but in some countries the amount in trade affects considerably domestic operations on these fabrics.

Most developed countries maintain protectionist barriers to prevent disruptive imports of broadwoven fabrics of manmade fibers; others aid and encourage their domestic industries to export more fabric. Developing countries also have barriers to imports of broadwoven fabrics of manmade fibers; they, however, encourage the establishment of plants to produce such fabrics with foreign assistance.

International direct investment is limited in broadwoven fabrics of manmade fibers. Generally such investments are promoted by large textile firms located in the developed countries of the world. For example, the leading U.S. broadwoven fabric producer has plants making such fabrics in Ireland, West Germany, Italy and Mexico.

International Trade Practices

The great bulk of U.S. imports of broadwoven fabrics of manmade fibers is handled by affiliated U.S. importers and independent brokers. Small amounts are imported by apparel manufacturers which send their own buyers abroad or which have offices established overseas. They frequently set specifications and quality standards. Much of the fabrics are imported by Japanese trading firms affiliated with a textile firm headquartered in Japan; sometimes these firms actively solicit fabrics from countries outside their own, particularly when the prices are attractive.

Large U.S. producers of broadwoven fabrics of manmade fibers account for the majority of the export sales. These include Burlington Industries, Inc., Deering Milliken, Inc., and J. P. Stevens & Co., Inc. All large producers that export have representatives in important foreign markets. These representatives also handle other commodities besides fabric, but virtually all deal exclusively in U.S. merchandise. In addition, big U.S. firms, especially those that manufacture products other than these fabrics, have their own sales

organizations in foreign countries. Large U.S. exporters distribute their fabric sales usually to one organization within each country.

Small domestic weaving firms do not normally export directly to foreign markets but sell their fabrics to an organization specializing in international trade. These organizations have distributorships and agents in many of the important foreign fabric markets. Export sales through these organizations are less than 20 percent of all broadwoven fabrics of manmade fibers exported by the United States.

Large international trade shipments of broadwoven fabrics of manmade fibers are transported by ship or big land carriers; however, many shipments are now arranged via air cariers. Small shipments may be included with another order or transported separately through private carriers that use rail or motor transportation.

Most communications between U.S. and foreign trading outfits are handled by cablegrams; some urgent ones are completed by telephone. Transactions are financed preponderantly through international letters of credit. Sight drafts and open account confirmations are utilized in a small part of export transactions. U.S. imports of broadwoven fabrics of manmade fibers are financed principally through letters of credit. Much of the imports through Japanese trading organizations are financed through the affiliated textile firm headquartered in Japan.

Imports and Import Trends

U.S. imports of broadwoven fabrics of manmade fibers increased from 177.7 million square yards, valued at $59.0 million, in 1967 to 256.4 million square yards, valued at $167.2 million, in 1972. They declined somewhat, however, to 215.1 million square yards, valued at $180.0 million, in 1973, and again began to increase and reached a high for the 1967-76 period of 284.9 million square yards, valued at $240.7 million, in 1976 (table 1). The greater increase was registered by polyester filament fabrics, bleached or colored, which accounted for only 9 percent of the imports in 1968 but 42 percent in 1976. In terms of quantity, the imports averaged 3 to 4 percent of the domestic apparent consumption during the 1967-76 period and in terms of value, between 4 and 10 percent of the consumption.

Almost all the imports are similar in type and quality to the like domestic fabrics. As noted earlier, however, most imports have been of finished fabrics. The most competitive imported and domestic fabrics are impression cloths (used in computers, typewriters, and so forth), twills, taffetas, satins, crepes, challis, suitings, ginghams, broadcloths, poplins, lawns, and muslins. The prices of imported cloths similar to and in the same condition as the equivalent domestic fabrics are usually lower. Prices quoted in the markets from both domestic and imported sources on many types of fabrics indicate that most imported competitive fabrics are priced about 2 to 10 cents per linear yard lower than the domestic fabric. The margin remained through most of the 1967-77 period but narrowed toward the end of the period. However, the imports were still lower per linear yard than the domestic production. An

example is a gray 65-percent polyester and 35-percent cotton batiste fabric of spun yarn (36 inches wide) imported from Japan. The price relationship in the market with the same fabric produced domestically is tabulated below for selected years during the 1967-77 period:

(In cents per linear yard)

Origin	1969	1974	1977
United States	28	33	50
Japan	22	30.5	48

Japn has been the principal supplier of the imports of broadwoven fabrics of manmade fibers during the 1967-76 period, accounting for 80 to 85 percent of the quantity for most of the period (table 3). Japan has been the leading U.S. supplier of polyester fabrics (especially all filament polyester and polyester blends with cotton and rayon), rayon fabrics (particularly viscose blends), fabrics containing wool (notably blends with polyester and acrylic), nylon fabrics (especially filament goods), acrylic fabrics, and acetate fabrics. Other important suppliers were Italy, the Republic of Korea, West Germany, and France.

Exports and Export Trends

During the 1967-76 period, U.S. exports of domestic broadwoven fabrics of manmade fibers fluctuated. They ranged from a high of 383.3 million square yards, valued at $342.6 million, in 1974, to a low of 156.4 million square yards, valued at $96.5 million, in 1968 (table 1). In the period, the exports averaged annually from 2 to 4 percent of the domestic production in terms of yardage. For the same period of time, imports also ranged from 2 to 4 percent of production in terms of yardage.

The largest exports have been polyester broadwoven fabrics, especially dyed and finished goods. Specifically they were principally polyester textured yarn fabrics and polyester-cotton mixtures. Of lesser importance have been exports of nylon impression cloths and taffetas, and rayon printed goods.

Principal export markets during 1970-76 were Canada, the United Kingdom, West Germany, and the Republic of South Africa (table 4). In value, these four countries accounted annually for about 40 to 50 percent of the total U.S. exports during the period. Other important markets were Australia, Mexico, Hong Kong, and the Philippines. Dyed and finished polyester broadwoven fabrics accounted for most of Canada's imports from the United States. Canada also purchased notable quantities of nylon impression cloths, nylon taffetas, and rayon printed goods from U.S. suppliers. The United Kingdom, West Germany, and the Republic of South Africa also concentrated on dyed and finished polyester filament and spun fabrics from the United States.

The Role of International Direct Investment

Specific data on U.S. investment in foreign countries on broadwoven fabrics of manmade fibers are not available. The U.S. Department of Commerce has compiled data on direct foreign investment by U.S. firms in a broad category, "other manufacturing," which would include textiles and broadwoven fabrics of manmade fibers. The investments are based on book value, which is reinvested earnings plus capital flows. The book value of U.S. investments in "other manufacturing" for certain geographic groupings are shown in the tabulation below for 1975 (in millions of U.S. dollars):

Europe	$4,764
European Community	4,038
Latin America	2,066
Canada	4,305

Textiles account for less than a third of the above figures; broadwoven fabrics of manmade fibers, less than 5 percent.

The leading domestic firms having direct investments in woven fabrics in foreign countries are Burlington Industries, Inc., United Merchants & Manufacturers, Deering Milliken, Inc., and J. P. Stevens & Co., Inc. Burlington Industries, Inc., has plants making broadwoven fabrics of manmade fibers in Ireland, West Germany, Italy, and Mexico. Information from the industry indicates that Burlington does not dominate fabric production in any of these countries but it is a large producer in each one of them.

United Merchants & Manufacturers has plants manufacturing broadwoven fabrics of manmade fibers and cotton in Uruguay, Argentina, and Venezuela. Available information indicates that it probably is a main producer of woven fabrics in the South American countries and a large distributor of such fabrics in the United Kingdom.

Official information on the location of the manmade-fiber broadwoven fabric plants of J. P. Stevens & Co., Inc., and Deering Milliken, Inc., in foreign countries is not available, but trade information indicates that they have direct investments principally in the European countries where they are large producers of woven fabrics but not the dominant ones.

A few foreign firms have investments in U.S. plants making broadwoven fabrics of manmade fibers. Data from the U.S. Department of Commerce indicate that the principal Canadian firm with investments in these fabrics in the United States is Dominion Textile, whose subsidiaries had sales of $329.5 million in 1974; less than one-third of this figure is estimated to be sales of broadwoven fabrics of manmade fibers. Japan is another important investor in U.S. textiles and apparel, with a book value investment of $33 million in 1975; only a small part of this figure can be attributed to broadwoven fabrics of manmade fibers. Overall, foreign firms operate less than a dozen plants in the United States making these fabrics; they account for less than 0.5 percent of the U.S. production of woven fabrics.

Trade sources indicate that in virtually all foreign investments in woven fabrics of manmade fibers, whether in the United States or elsewhere, the same fabrics woven by one firm in more than one country are rarely interchanged or exported. Even in export markets, a U.S. or foreign firm will not try to compete with a fabric market established by one of its subsidiaries or affiliates. Available information indicates that much of the international trade in woven fabrics of manmade fibers accounted for by multinational firms goes to countries where no subsidiaries or affiliates are located.

Most direct investments of multinational firms in woven fabrics of manmade fibers are 100-percent owned by the parent. Foreign affiliates are principally majority owned by the establishing organizations, although some affiliates in extremely nationalistic countries are minority controlled by their establishing companies. Multinational firms usually organize their own marketing offices in countries where their subsidiaries or affiliates are located. Most of the time the foreign firm sets its own policies for operating within its own country, but it usually consults with the parent firm when undertaking international activities. The technology achieved by the parent firm in the woven-fabric industry is normally available in toto to the foreign subsidiary or affiliate. Related-party transactions between parent firms and foreign subsidiaries and affiliates rarely exist in international trade in woven fabrics of manmade fibers.

APPENDIX A

STATISTICAL TABLES

Table 1.--Broadwoven fabrics of manmade fibers, except glass: U.S. production, imports for consumption, exports of domestic merchandise, and apparent consumption, 1967-76

Year	Production 1/	Imports	Exports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (1,000 square yards)				
1967	5,781,408	177,723	160,125	5,799,006	3
1968	6,925,176	195,935	156,384	6,964,727	3
1969	7,027,822	218,706	175,884	7,070,644	3
1970	6,731,077	234,938	184,913	6,781,102	4
1971	6,738,917	253,275	171,924	6,820,268	4
1972	7,605,435	256,415	208,701	7,653,149	3
1973	8,509,911	215,054	309,530	8,415,435	3
1974	8,086,641	223,247	383,260	7,926,628	3
1975	7,300,002	242,585	353,570	7,189,017	3
1976	2/ 8,089,480	284,922	354,968	2/ 8,019,434	4
	Value (1,000 dollars)				
1967	1,454,461	59,036	105,293	1,408,204	4
1968	1,837,759	75,889	96,469	1,817,179	4
1969	1,734,580	95,416	106,097	1,723,899	6
1970	1,397,470	129,756	109,443	1,417,783	9
1971	1,391,203	142,758	108,090	1,425,871	10
1972	1,814,149	167,162	135,161	1,846,150	9
1973	2,660,790	180,027	230,400	2,610,417	7
1974	2,857,060	178,729	342,552	2,693,237	7
1975	2,067,301	184,746	314,085	1,932,962	10
1976	2/ 2,669,528	240,740	331,628	2/ 2,578,640	9

1/ Square yards estimated from official statistics reported in linear yards by use of conversion factors shown by U.S. Bureau of the Census in Current Industrial Reports, series MQ-22T.2 Supplement dated November 1972; value partially estimated from manmade-fiber gray goods' prices listed in Daily News Record, a Fairchild publication, and official statistics of the U.S. Department of Commerce.

2/ Estimated.

Source: Compiled from official statistics of the U.S. Department of Commerce, unless otherwise noted.

Table 2.--Broadwoven fabrics of manmade fibers, except glass: U.S. production, by types, 1972-76

(In thousands of linear yards)

Type	1972	1973	1974	1975	1976
100 percent filament yarn fabrics	1,405,817	1,562,505	1,619,888	1,427,895	1,647,391
100 percent filament acetate fabrics	318,805	293,399	292,068	253,612	258,325
Acetate and other filament combinations	52,047	39,867	32,918	12,050	21,280
100 percent filament rayon fabrics	70,290	58,877	47,472	21,731	29,230
Rayon and other filament combinations	65,104	80,873	59,060	37,927	63,050
100 percent filament nylon fabrics	371,027	361,474	344,562	277,124	343,901
Nylon and other filament combinations	6,015	4,343	1,416	1,881	n.a.
100 percent filament polyester fabrics	299,275	384,875	381,516	471,278	500,521
Polyester and other filament combinations	7,976	14,462	49,176	39,686	39,299
Other 100 percent filament yarn fabrics including saran and olefin	1/	1/	411,700	312,606	387,078
100 percent spun yarn fabrics and blends chiefly manmade fibers by weight	3,062,621	3,526,824	3,308,754	3,036,461	3,470,092
Spun rayon and/or acetate fabrics	428,167	435,406	294,522	172,389	183,421
Spun rayon and/or acetate blends	153,336	186,933	132,079	93,763	107,626
Spun nylon fabrics including blends	6,478	6,556	9,833	12,535	10,034
Spun polyester fabrics	2,583,567	3,064,286	2,968,055	2,830,476	3,180,862
100 percent spun polyester fabrics	26,830	105,448	113,259	144,847	162,033
Chiefly spun polyester blends with cotton	2,190,115	2,513,868	2,381,186	2,359,542	2,692,542
Chiefly spun polyester blends with rayon	333,571	401,652	417,497	300,213	291,002
Other chiefly spun polyester blends	33,051	43,318	56,113	25,874	55,054
100 percent spun acrylic fabrics and acrylic blends	39,206	15,400	10,388	5,575	34,793
All other 100 percent spun yarn fabrics and blends	5,203	5,176	25,956	15,486	19,420
Combinations and mixtures of filament and spun fabrics	515,402	474,772	329,797	257,057	343,101

1/ Withheld to avoid disclosing figures for individual companies.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 3.--Broadwoven fabrics of manmade fibers, except glass: U.S. imports for consumption, by principal sources, 1970-76

Source	1970	1971	1972	1973	1974	1975	1976
	Quantity (1,000 square yards)						
Japan	195,357	214,939	204,963	153,141	158,193	200,026	208,168
Italy	7,650	7,165	10,819	15,208	15,871	8,862	15,904
Republic of Korea	4,993	3,720	7,874	6,419	7,799	13,420	11,703
West Germany	6,337	5,544	4,434	4,222	3,511	2,887	3,966
France	4,605	5,404	6,348	8,014	7,720	5,090	10,515
Spain	1,256	1,250	1,674	3,630	4,072	2,756	4,300
Switzerland	1,496	1,342	1,244	1,384	1,225	1,140	2,768
United Kingdom	689	1,022	2,100	3,696	2,996	1,337	8,456
All others	12,555	12,889	16,959	19,340	21,860	7,065	19,142
Total	234,938	253,275	256,415	215,054	223,247	242,585	284,922
	Value (1,000 dollars)						
Japan	90,735	103,882	118,597	117,374	108,671	131,537	164,990
Italy	8,129	9,277	13,112	19,713	22,803	14,467	23,252
Republic of Korea	2,117	1,749	5,233	5,502	7,437	12,230	10,460
West Germany	10,488	8,809	8,186	7,206	6,509	6,081	7,471
France	4,745	6,164	6,406	7,541	7,224	5,188	8,026
Spain	1,543	1,264	1,751	4,768	5,923	3,363	5,625
Switzerland	3,452	2,944	2,702	3,160	3,231	3,066	5,044
United Kingdom	1,003	1,232	1,658	3,095	3,431	1,663	3,952
All others	7,544	7,437	9,517	11,668	13,498	7,151	11,920
Total	129,756	142,758	167,162	180,027	178,729	184,746	240,740

Source: Compiled from official statistics of the U.S. Department of Commerce.

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Table 4.--Broadwoven fabrics of manmade fibers, except glass: U.S. exports of domestic merchandise, by principal markets, 1970-76

Market	1970	1971	1972	1973	1974	1975	1976
	Quantity (1,000 square yards)						
Canada	27,913	29,533	41,104	44,970	65,424	73,642	89,535
United Kingdom	10,741	14,415	26,394	41,530	52,616	61,268	37,220
West Germany	20,008	8,416	8,746	10,487	17,806	15,251	10,367
Republic of South Africa	12,607	9,888	9,719	19,595	22,958	12,811	11,953
Australia	6,418	5,478	4,675	11,510	13,846	8,530	8,553
Mexico	2,593	3,251	4,450	7,029	14,784	5,670	7,693
Hong Kong	4,456	3,770	6,418	12,029	10,813	6,693	7,948
Republic of the Philippines	16,784	10,792	8,798	16,414	16,167	8,785	11,221
All others	83,393	86,381	98,397	145,966	168,846	160,920	170,478
Total	184,913	171,924	208,701	309,530	383,260	353,570	354,968
	Value (1,000 dollars)						
Canada	19,734	21,089	29,693	41,255	66,199	76,100	91,571
United Kingdom	9,158	9,833	16,914	28,857	44,072	53,322	31,594
West Germany	6,188	5,556	6,840	9,143	18,352	16,174	15,517
Republic of South Africa	8,094	6,299	5,793	14,592	21,001	11,282	11,567
Australia	5,608	5,290	3,969	9,114	13,855	8,472	10,143
Mexico	1,823	2,019	3,881	7,562	11,848	5,994	7,206
Hong Kong	3,632	3,064	4,795	10,472	11,084	5,994	7,964
Republic of the Philippines	6,651	4,644	4,373	8,354	11,091	5,157	8,185
All others	48,555	50,296	58,903	101,051	145,050	131,590	147,881
Total	109,443	108,090	135,161	230,400	342,552	314,085	331,628

Source: Compiled from official statistics of the U.S. Department of Commerce.

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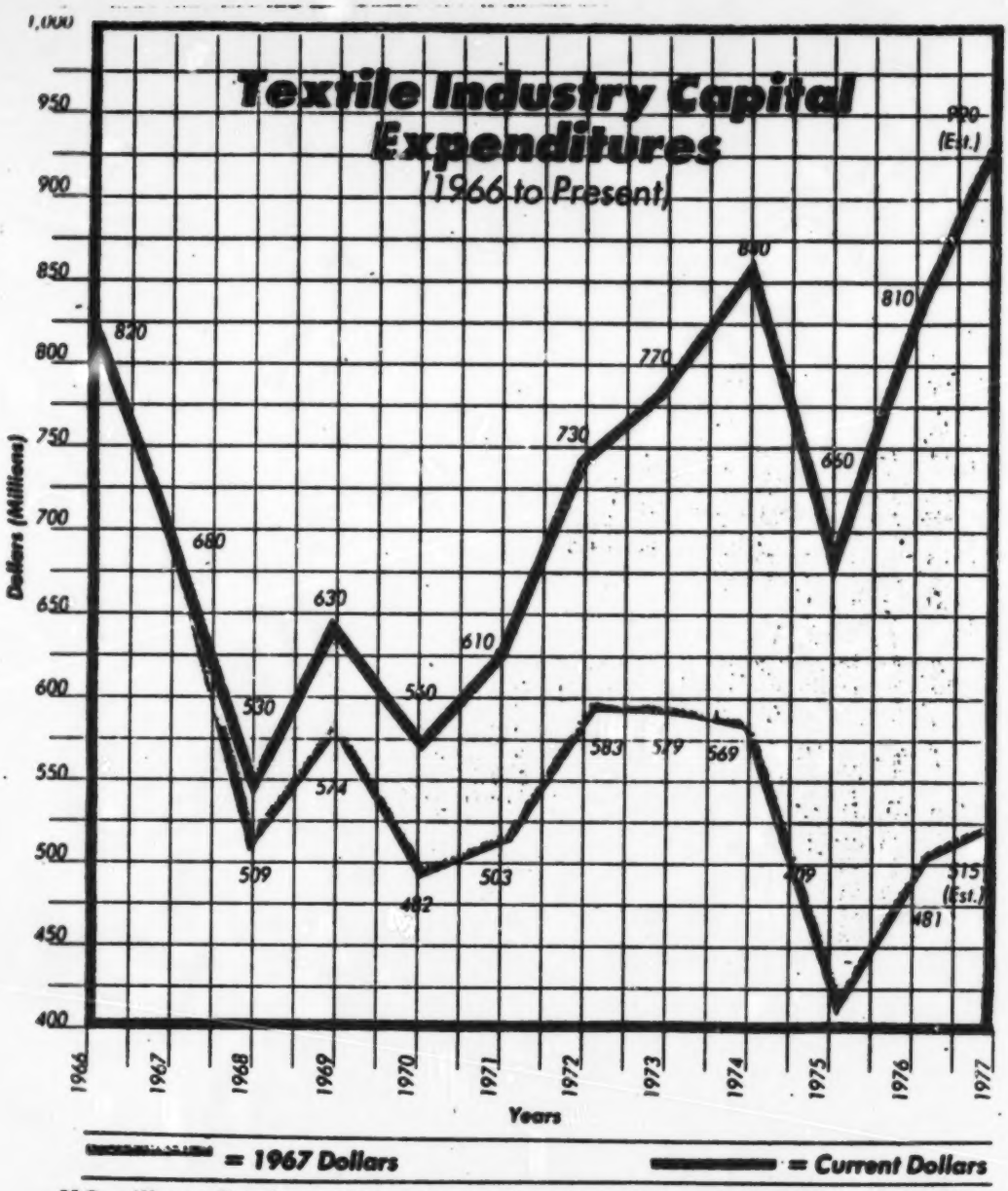
APPENDIX B

REFERENCED CHART



U.S. mill spending for capital equipment is estimated to reach a record level of $920 million in 1977 — but that's not the whole story. The $920 million estimate is in current dollars. Measured in terms of real or 1967 dollars, expenditures are estimated at only $515 million. That compares with the previous high of $820 million investment back in 1966. The chart illustrates the inflationary gap between real and current dollars widening over the past decade and demonstrates the downward inflation-adjusted trend in mill capital expenditures. (Chart furnished by the American Textile Machinery Association.)

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APPENDIX C

EXCERPTS FROM THE TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED

GSP	Item	Stat. Suf-fix	Articles	Units of Quantity	Rates of Duty 1	Rates of Duty 2
			Woven fabrics, of silk (con.):			
			In chief value, but not wholly of silk (con.):			
			Other (con.):			
			Not jacquard-figured (con.):			
	337.70		Degummed, bleached, or colored.....	.....	11.5% ad val.	60% ad val.
		25	*Subject to man-made fiber restraints.....(210)*	*Sq. yd.* *Lb.*		
		35	*Other.....*	*Sq. yd.* *Lb.*		
			Jacquard-figured:			
	337.80		Not degummed, not bleached, and not colored.....	.....	13.5% ad val.	65% ad val.
		25	*Subject to man-made fiber restraints.....(210)*	*Sq. yd.* *Lb.*		
		35	*Other.....*	*Sq. yd.* *Lb.*		
	337.90		Degummed, bleached, or colored.....	.....	13.5% ad val.	65% ad val.
		25	*Subject to man-made fiber restraints.....(210)*	*Sq. yd.* *Lb.*		
		35	*Other.....*	*Sq. yd.* *Lb.*		
			Subpart E. - Woven Fabrics, of Man-Made Fibers			
			Woven fabrics, of man-made fibers:			
	338.10		Containing over 17 percent of wool by weight:			
			Valued not over $2 per pound.....	.....	15¢ per lb. + 25% ad val.	60¢ per lb. + 70% ad val.
		10	*Not over 6 ounces per square yard...(210)*	*Sq. yd.* *Lb.*		
		12	*Over 6 but not over 8 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
		14	*Over 8 but not over 10 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
		16	*Over 10 but not over 12 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
		18	*Over 12 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
	338.15		Valued over $2 per pound.....	.....	15¢ per lb. + 15% ad val.	50¢ per lb. + 70% ad val.
		10	*Not over 6 ounces per square yard...(210)*	*Sq. yd.* *Lb.*		
		12	*Over 6 but not over 8 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
		14	*Over 8 but not over 10 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
		16	*Over 10 but not over 12 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		
		18	*Over 12 ounces per square yard.....(210)*	*Sq. yd.* *Lb.*		

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GSP	Item	Stat. Suf-fix	Articles	Units of Quantity	Rates of Duty 1	Rates of Duty 2
			Woven fabrics, of man-made fibers (con.):			
			Other:			
			Of glass:			
	338.25	00	Not colored.....(210)	Sq. yd.v Lb.	10.5% ad val.	50% ad val.
	338.27	00	Colored.....(210)	Sq. yd.v Lb.	13% ad val.	60% ad val.
	338.30		Other.....	.....	13¢ per lb. + 22.5% ad val.	45¢ per lb. + 70% ad val.
			Suitable for making typewriter and marking ribbon, containing yarns the average denier of which exceeds 25 but not 75, the total thread count (treating ply yarns as single threads) of which per inch is not less than 140 warp and 100 filling and not more than 210 warp and 140 filling and in which the thread count of the warp does not exceed 60 percent of the total thread count of the warp and filling:			
		14	*Slit, with fast edges.....(210)*	Sq. yd.v Lb.		
		16	*Other.....(210)*	Sq. yd.v Lb.		
			Other:			
			Wholly of continuous man-made fibers:			
			Not bleached and not colored:			
		22	*Of acetate.....(208)*	Sq. yd.v Lb.		
		23	*Of rayon.....(208)*	Sq. yd.v Lb.		
		27	*Of nylon.....(208)*	Sq. yd.v Lb.		
		29	*Of polyester.....(208)*	Sq. yd.v Lb.		
		30	*Of acrylic.....(208)*	Sq. yd.v Lb.		
		31	*Other.....(208)*	Sq. yd.v Lb.		
			Other:			
			Yarn dyed, the thread count of which per inch (treating ply yarns as single threads) is over 175 but not over 380 in the warp and over 79 but not over 180 in the filling:			
		37	*Of nylon.....(208)*	Sq. yd.v Lb.		
		38	*Of polyester....(208)*	Sq. yd.v Lb.		
		40	*Other.....(208)*	Sq. yd.v Lb.		
			Other:			
		51	*Of acetate.....(208)*	Sq. yd.v Lb.		
		53	*Of rayon.....(208)*	Sq. yd.v Lb.		
		56	*Of nylon.....(208)*	Sq. yd.v Lb.		
		57	*Of polyester....(208)*	Sq. yd.v Lb.		
		58	*Of acrylic.....(208)*	Sq. yd.v Lb.		
		60	*Other.....(208)*	Sq. yd.v Lb.		

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GSP	Item	Stat. Suf-fix	Articles	Units of Quantity	Rates of Duty 1	Rates of Duty 2
			Woven fabrics, of man-made fibers (con.):			
			Other (con.):			
	338.30 (con.)		Other (con.):			
			Other (con.):			
			Other:			
			Not bleached and not colored:			
			Wholly of spun yarn:			
		62	Of acetate.....(207)	Sq. yd.v Lb.		
		63	Of rayon.....(207)	Sq. yd.v Lb.		
		67	Of nylon.....(209)	Sq. yd.v Lb.		
		68	Of polyester....(209)	Sq. yd.v Lb.		
		70	Of acrylic.....(209)	Sq. yd.v Lb.		
		71	Other.....(209)	Sq. yd.v Lb.		
			Other:			
		72	Of acetate.....(210)	Sq. yd.v Lb.		
		73	Of rayon.....(210)	Sq. yd.v Lb.		
		77	Of nylon.....(210)	Sq. yd.v Lb.		
		78	Of polyester....(210)	Sq. yd.v Lb.		
		80	Of acrylic.....(210)	Sq. yd.v Lb.		
		81	Other.....(210)	Sq. yd.v Lb.		
			Other:			
			Wholly of spun yarn:			
		82	Of acetate.....(207)	Sq. yd.v Lb.		
		83	Of rayon.....(207)	Sq. yd.v Lb.		
		87	Of nylon.....(209)	Sq. yd.v Lb.		
		88	Of polyester....(209)	Sq. yd.v Lb.		
		90	Of acrylic.....(209)	Sq. yd.v Lb.		
		91	Other.....(209)	Sq. yd.v Lb.		
			Other:			
		92	Of acetate.....(210)	Sq. yd.v Lb.		
		93	Of rayon.....(210)	Sq. yd.v Lb.		
		94	Of nylon.....(210)	Sq. yd.v Lb.		
		96	Of polyester....(210)	Sq. yd.v Lb.		
		98	Of acrylic.....(210)	Sq. yd.v Lb.		
		99	Other.....(210)	Sq. yd.v Lb.		

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SUMMARIES OF TRADE AND TARIFF INFORMATION

USITC Publication 841

Complete list of Summaries published to date in Schedule 3

Control No.	Title	Control No.	Title
3-4-1	Fish Netting and Fishing Nets of Textile Materials		
3-6-2	Sweaters		
3-6-3	Body-supporting Garments		

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